DOCUMENT RESUME

ED 313 581 CE 053 872

AUTHOR Gerakis, Argyrios
TITLE Attitudes of Ohio County Extension Agents toward Satellite Video Teleconferencing in Extension Education. A Thesis.
PUB DATE 89
NOTE 109p.; Master's Thesis, Ohio State University.
PUB TYPE Dissertations/Theses - Master Theses (042) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Adult Educators; Agricultural Education; County Officials; Electronic Equipment; *Extension Agents; *Extension Education; Postsecondary Education; Program Improvement; *Teacher Attitudes; Teaching Methods; *Teleconferencing; *Videotape Recordings

ABSTRACT

A study was conducted to determine the attitudes of Ohio county extension agents toward satellite video teleconferencing. (Several county extension offices across the state participate in live satellite video teleconferences produced by The Ohio State University. Teleconferences cover a variety of extension education topics, from agriculture to home economics to teenage problems. Since county extension agents play an important role as facilitators at the local level, the success of teleconferencing depends greatly on their attitudes.) Data were collected from a mailed questionnaire to all 186 county extension agents in the state in the summer of 1989. Approximately 79 percent (147) usable questionnaires were returned. Analysis of data revealed that, overall, the majority of agents are "slightly positive" toward satellite video teleconferencing. However, they tend to prefer prerecorded videotapes over live teleconferencing. Cross-tabulation between the attitude scores and a variety of personal characteristics showed negligible to moderate relationships only. The study concluded that the extension service should continue financing satellite video teleconferencing but at the same time should focus on videotape production. Some other suggestions from the extension agents were that improvements be made in the quality of programs and the reliability of the technology, so that the agents might feel more confident about it. (Includes 24 references, the survey instrument, and selected responses.) (Author/KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED313581

ATTITUDES OF OHIO COUNTY EXTENSION AGENTS TOWARD SATELLITE VIDEO TELECONFERENCING IN EXTENSION EDUCATION

A Thesis

Presented in Partial Fulfilment of the Requirements for the Degree Master of Science in the Graduate School of The Ohio State University

By

Argyrios Gerakis, B.S.

* * * * *

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

The Ohio State University

1989

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

A Gerakis

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE 053872

Master's Examination Committee:
R. Kirby Barrick
Larry R. Whiting

Approved by

Adviser
Department of Agricultural Education

BEST COPY AVAILABLE

To My Parents and Sister

ACKNOWLEDGMENTS

I express sincere appreciation to my adviser, Dr. R. Kirby Barrick, for his guidance throught the research. Thanks go to the other member of my advisory committee, Dr. Larry R. Whiting, for his suggestions, comments, and sponsorship of this study. The technical assistance of David Doerfert and Matt Raven, teaching assistants, is gratefully acknowledged.

VITA

December 13, 1964 ..... Born-Thessaloniki, Greece

1987 ..... B.S. in Agriculture, University of Thessaloniki, Greece

PUBLICATIONS

Gerakis, A. (1987). Mussel Culture in the Bay of Thermaikos: General Overview and Economic Analysis. Thesis for the B.S. degree. Thessaloniki, Greece.

FIELD OF STUDY

Major Field: Agricultural Education

TABLE OF CONTENTS

DEDICATION ii

ACKNOWLEDGEMENTS iii

VITA iv

LIST OF TABLES vii

CHAPTER PAGE

I. INTRODUCTION 1

Background and Setting 1
Problem Statement 8
Research Questions 9
Definition of Terms 10
Limitations of the Study 11
Basic Assumptions 11

II. REVIEW OF LITERATURE 12

About Video Teleconferencing in General 13
History of Video Teleconferencing in Education 14
Literature on the Attitudes of Educators Toward Educational Communication Technologies 16

The "Fear of Displacement" Issue 19

III. PROCEDURES 23

Research Design 23
Subject Selection 25
Outcome Measures 25
Conditions of Testing 27
Data Analysis 29

IV. FINDINGS 30

Personal Characteristics 30
Experience with Satellite Video Teleconferencing 41
Preference Toward Various Media of Information Delivery 46
Overall Attitudes 48
Cross Tabulation: Personal Characteristics by Attitude Score 52
Cross Tabulation: Experience with Video Conferencing by Attitude Score 61

V. CONCLUSIONS AND RECOMMENDATIONS 69

Conclusions 69
Recommendations for Implementation 73
Recommendations for Further Research 75

LIST OF REFERENCES 77

APPENDICES

A. The Instrument 80

B. Cover Letter 95

C. Selected Comments 97

LIST OF TABLES

TABLE		PAGE
1.	Years in Service of Respondents	31
2.	Age of Respondents	33
3.	Program Area of Respondents	35
4.	District Where County is Located	37
5.	Technology Ownership of Respondents	39
6.	Number of Technology Items Owned by the Respondents	40
7.	Number of Meetings Organized by the Respondents in the Last Three Years	42
8.	Number of Meetings Attended by the Respondents in the Last Three Years	44
9.	Preference Toward Various Media of Information Delivery	47
10.	Results from the Overall Attitude Section of the Questionnaire (by Individual Item)	49
11.	Summative Results from the Overall Attitude Section of the Questionnaire (Attitude Score)	51
12.	Years in Service by Attitude Score	53
13.	Age by Attitude Score	54

14. Agriculture Program Area by Attitude Score 55

15. Home Economics Program Area by Attitude Score. 56

16. 4 H/Youth Program Area by Attitude Score 57

17. CNRD Program Area by Attitude Score 58

18. District by Attitude Score 59

19. Technology by Attitude Score 60

20. Number of Meetings Organized by Attitude Score 62

21. Number of Meetings Attended by Attitude Score 63

22. Availability of Dish by Attitude Score 64

23. Plans to Purchase a Dish by Attitude Score 65

24. Accessibility to a Dish by Attitude Score 66

25. Pre-conference Activities by Attitude Score 67

26. Post-conference Activities by Attitude Score 68

CHAPTER I
INTRODUCTION

Background and Setting

When instructional television was first introduced in American schools, it was received as a revolution. In fact, an Educational Media Study Panel in 1961 said that, "The new media and devices now available to education hold as much promise for improvement of instruction as did the invention of the book" (quoted in Cambre, 1989a, p. 20).

Optimism about media bringing forth drastic changes to education was not new, not even in 1961. Thomas Edison, upon inventing the motion picture, predicted it would revolutionize schooling (cited in Cambre, 1989a, p. 20).

Today, new telecommunication technologies do more than just transmit a motion picture to be watched in the traditional classroom setting or at home. Live video teleconferencing makes active participation of the audience possible and adds a new dimension to learning from a distance. At the same time, uses of television have expanded into adult, continuing and extension education.

However, television broadcasts via terrestrial stations are often problematic, inefficient, or just impossible, if the distance between the instructor and the learner is great and the terrain is too rough.

Therefore, the use of satellite technology to electronically connect educators to learners comes as a major breakthrough, especially when an expanded geographic area is to be covered.

For a satellite broadcast to occur there must be an uplink site, which should be in or close to the educational institution that offers the instruction. From the uplink site a signal is transmitted to a geosynchronous or geostationary satellite, which is simply a satellite revolving around the earth at the same speed as the earth so as to appear stationary from the ground. The satellite then transmits the signal back to earth in another frequency. The signal is received at the downlink site by a dish-like antenna. The downlink site, depending on the nature of the telecast, can be another educational institution, a community center, a county extension office, or anyone who owns a satellite dish in the area covered by the satellite, commonly referred to as the satellite "footprint." For extension education purposes the signal is not scrambled, so every individual with a satellite dish can have access to programs (Eckles & Miller, 1987).

Satellite video teleconferencing is a recent introduction in Ohio extension. It began in February 1987, when the Ohio Cooperative Extension Service (OCES) aired the first teleconference via satellite. Larry Whiting, head of the Section of Information and Applied Communications at the OCES, says there is a "television renaissance" underway, and he attributes that to several factors, such as: a. the increasing popularity of satellite dishes in Ohio (in 1987, 8% of

Ohioans either had a satellite dish or planned to buy one) b. the difficulty of extension educators to get people to attend programs on-site ("if you can't teach live on site, being there live and in color by satellite may be the next best choice") c. a decrease in personnel of the cooperative extension service, and d. the decrease in television production costs and increased competition from other deliverers of education outside the land-grant system (Whiting, 1988). On the subject of competition from outside, Pease and Threlkeld (1984) say: "The ability for organizations less encumbered with bureaucratic red tape and politics to organize and develop educational programs, . . . represents a competitor of the traditional institution [that is, the University]" (p. 391).

The new electronic renaissance has led to the emergence of non-traditional colleges that offer telecourses transmitted via the satellite. As one administrator of such an alternative college recently put it, "We don't have a football team, so people are coming to know us by our satellite dish" (Pease and Threlkeld, 1984).

Through the Ohio Educational Broadcasting Network's uplink satellite dish, The Ohio State University faculty can reach clientele and extension agents all over Ohio and others beyond. Whiting, in another instance, adds: "We haven't telecast worldwide yet . . . our biggest bite has been North America, but give us time" (College of Agriculture, Ohio Cooperative Extension Service, Ohio Agricultural Research and Development Center, 1988, March, p. 25).

In August 1989, 24 out of 88 Ohio counties had dishes installed at the county office and another 10 had access to one, public or private (L. R. Whiting, personal communication, August 3, 1989). When there is a teleconference taking place, a certain number of the clientele meet at the county office to watch the program and call in questions over the toll-free telephone lines. A certain number watch at home. A similar procedure is adopted for the in-service video conferences, exclusively for extension agents.

Other land-grant universities also use the technology. An Iowa State University pamphlet says (cited in Eckles & Miller, 1987):

> The space shuttle has a lot more to do with the globalizated information economy than it will ever have to do--in our lifetimes--with space exploration. . . . Satellites [have] transformed the earth into a global village. (p. 1)

Whiting says that satellite teleconferencing is an economical way for universities to share educational expertise across state boundaries. In many instances it can be cost effective for training field faculty within a state, too. "Satellite video teleconferencing pays if you save travel costs and time for 50 to 60 people who otherwise may had to be in Columbus for the event" (College of Agriculture, Ohio Cooperative Extension Service, Ohio Agricultural Research and Development Center, 1988, March, p. 25). Eckles & Miller (1987) say, "those who are poorer economically and educationally, and more isolated physically, can and are being benefited" (p. 2). Garforth adds that "increased speed, efficiency, capacity, quality etc., are continuing to develop, at a time when

extension organizations are looking for more cost-effective ways of making useful relevant information available to rural people" (quoted in Eckles & Miller, 1987, p. 4).

While the aforementioned opinions are in favor of satellite video teleconferencing, other writers express their reservations (Olgren & Parker, 1983, p. 233; Pease & Threlkeld, 1984). Olgren and Parker (1983) say about video conferencing:

> Because of its ability to provide images of people, video conferencing is generally regarded as more desirable than other forms of teleconferencing . . . however, there is a tendency to overestimate their value, rather than critically examine their role in specific applications . . . In direct comparison, video conferencing will always appear to be second best [to face-to-face meeting], because it lacks the physical proximity inherent in face-to-face encounters. (p. 233)

A publication of the University of Minnesota (1987) warns about planning a video teleconference:

> How do you know the teleconference will live up to its instructional goals? Will it have the high television production your audiences are accustomed to? Is the internationally recognized expert a dull presenter when on camera? Is there adequate time available for questions and answers? Is it worth the cost ? (p. 5)

The technology requires a considerable investment in equipment, both studio and transmitting. An uplink dish and transmitter can be a $500,000 investment (Whiting, 1988). Studio costs can be as much as $250,000. At Ohio State, OCES contracts the uplink services from the Ohio Educational Broadcasting Network, but constructed its own studio on the agricultural campus. Downlink, or

receiving dishes, can range from $700 to several thousand dollars depending on features desired. Average cost for dishes installed in Ohio county extension offices is $1,200. If Ohio installed a dish in all 88 counties, they would cost approximately $100,000 (L. R. Whiting, personal communication, September 13, 1989). Whiting adds that this sounds like a major investment, yet a receiving dish can cost less than the average office computer (L. R. Whiting, personal communication, September 13, 1989).

Uplink fees (the cost of transmitting the signal to the satellite) can be as high as $200 per hour (Eckles & Miller, 1987). At Ohio State, the uplink has been $100 per program (L. R. Whiting, personal communication, September 13, 1989). Transponder time (the time during which the satellite transmits the signal back to earth) ranges from $200 to $800 per hour. Average cost for Ohio State has been $700 per hour (L. R. Whiting, personal communication, September 13, 1989).

Program production costs range from very little (studio presentations with "talking heads") to many thousands of dollars, that is, documentary style format with considerable shooting on location (L. R. Whiting, personal communication, September 13, 1989).

Federal funding for extension is declining each year. It has dropped from $361 million for 1989 to $325 million for 1990 (K. Smith, personal communication, January 25, 1989).

A decline in funding may have other consequences, as well. Ohio extension staff is most likely to be reduced in the years to come (K. Smith, personal communication, January 25, 1989), but this is not an Ohio phenomenon only. Beatty says that between 1984-1988 county extension staff in Wisconsin dropped from 300 to 270 with a target of cutting the staff to 238 by 1991 (cited in Fett, Duffy, & Shinners-Gray, 1989, July). Whiting says that these cutbacks will actually promote the growth of satellite-delivered teleconferencing. New information delivery techniques are more needed now than ever, because a reduced number of faculty and staff has to reach more and more people (L. R. Whiting, personal communication, September 13, 1989).

According to this writer, three major points seem clear so far: First, extension is in a state of crisis and transition, and its future is at stake. Second, there is a satellite video teleconferencing technology, with a promising educational potential. Third, the technology can save money in travel and lodging expenses, but it requires a high start-up cost for equipment and considerable allocations for maintenance and production of broadcasts.

So far, these are the opinions of the people working in the administration and production of the satellite programs. What is missing from the picture is the opinion of the extension agents themselves, who are responsible for holding the teleconference meetings at the local level. Very little research exists on the perceptions and attitudes of extension educators toward this

technique, neither in Ohio nor worldwide; however, their opinion would be indispensable for planning future facilities and production of broadcasts. Would video teleconferencing be a worthy investment if extension agents are not favorable toward it? How can we get the maximum out of these programs without the cooperation of the people who work at the end of the production chain? How can potential on-site problems be detected and resolved without appropriate feedback from the agents?

Thus evolves the need for this study, which aims at providing the missing information on the attitudes of the agents toward video teleconferencing.

Problem Statement

Satellite video teleconferencing has a three-year history in the Ohio Cooperative Extension Service. Some evaluation attempts of individual video conferences had been made by clients and agents (Ohio Cooperative Extension Service, 1987a, 1987b), but all such attempts had been fragmented and unsystematic. The problem was that, as of this study, there had been no systematic feedback available from the extension agents across the state. What is presented in the following chapters is the first systematic, statewide attempt to collect, analyze, report, display, and interpret data on the attitudes of Ohio county extension agents toward satellite video teleconferencing.

Research Questions

This study was conducted to answer the following questions:

1. What are the personal characteristics of the county extension agents: age, numbers of years in service, program area, district, and ownership status of the following: personal computer, satellite dish, VCR, and compact disc player.
2. What is the experience of the agents with satellite video teleconferencing: number of video conference meetings held in the last three years, number of video conference meetings attended in the last three years, availability of a satellite dish in the county, plans for purchasing a dish, accessibility to a dish other than at the county office, use of pre-conference activities and materials, use of post-conference activities and materials.
3. How do the agents rate the following media of information delivery: audio tapes, bulletins and fact sheets, computer information (electronic mail and bulletin boards), educational films, educational video-tapes, exhibits and displays, news releases, newsletters, poster sessions, radio programs, satellite video teleconferences, slide/tape presentations, slides, transparencies/overheads. What rating does satellite video teleconferencing receive over other techniques?
4. What are the overall attitudes of the agents toward OCES video teleconferences?

5. What is the relationship between overall attitudes of agents and each of the various personal characteristics?
6. What is the relationship between overall attitudes of agents and experience of the agents with video teleconferencing?

Definition of Terms

attitude: A feeling toward something. An intrinsic value system or belief (R. K. Barrick, personal communication, May 19, 1989).

downlink: The place where the signal is received by the antenna (satellite dish) (Olgren & Parker, 1983).

teleconferencing: Generally, the term refers to two-way electronic communications between two or more groups, or three or more individuals, who are in separate locations. In order to interconnect people, teleconferencing systems use telecommunication channels that range from regular telephone lines to satellite links. The only requirement is that the medium be interactive, giving people at each location the opportunity to actively participate in the meeting (Olgren & Parker, 1983). In this particular study, only video teleconferencing is considered.

uplink: The site where the signal originates. The signal is transmitted from the uplink to the satellite and then back to the downlink(s). (Olgren & Parker, 1983).

video teleconferencing: A special form of teleconferencing that uses one-way or two-way video, and two-way audio communication (Olgren & Parker, 1983).

Limitations of the Study

The study is limited to those county extension agents who were working in the Ohio Cooperative Extension Service from July 3 to August 10, 1989, that is, for the duration of this study, and who were hired before January 1, 1989. The study reflects the opinions of the agents at the time of the survey only. The study does not aim at a comprehensive evaluation of satellite video teleconferences, because it does not collect data on every aspect of satellite video teleconferencing, and it does not include input from other OCES employees or clientele.

Basic Assumptions

It is assumed that the respondents answered honestly so that their responses reflect their true attitude at the time of the study.

CHAPTER II
REVIEW OF LITERATURE

There is no previous research in Ohio on the attitudes of the county extension agents toward satellite video teleconferencing, except for very few evaluations done for some conferences in some counties (Ohio Cooperative Extension Service, 1987a, 1987b). There is not much related research worldwide, either. At best, this literature describes attitudes of groups very different from the OCES staff. An obvious explanation for this gap of information is the recent introduction of the technique. The first satellite video teleconference from a U.S. land-grant university was in 1985, and the first in Ohio was aired in 1987 (Whiting, 1988). Bogle of Oklahoma State University says that before 1985, no agricultural college in the world that he knew of could offer its off-campus clientele the chance to attend educational conferences on a regular basis by television monitor and satellite downlink near their homes (Oklahoma State University, Cooperative Extension Service, Division of Agriculture, 1989).

This chapter begins with some general information on video teleconferencing, proceeds with some history of applications, and reports all that is known on the attitudes of extension educators, school teachers and college instructors toward educational

communications technology, including what is known about the "fear of displacement."

About Video Teleconferencing in General

Video teleconferencing combines the audio and video media to provide both voice communication and video pictures. The images may be graphics, objects, people, room views, virtually anything that can be captured by a TV camera (Olgren & Parker, 1983).

To be included in the area of teleconferencing, video systems should be interactive. That is, they should allow a two-way flow of information between a minimum of two groups or three individuals at separate locations. Some video conferencing systems are fully interactive with two-way video and audio. Others provide one-way video accompanied by two-way audio (Olgren & Parker, 1983).

Video teleconferencing does not require a satellite for connecting the participating sites, but the addition of a satellite increases the size of the "footprint," that is, the area covered by the signal. Some video teleconferencing occurs with terrestrial microwave networks but such systems are limited (closed circuit) from point to point or studio to studio.

Olgren and Parker (1983) claim that video teleconferencing has some particular advantages of its own, compared to audio:

> The most obvious is that it provides video pictures of people--a missing element in audio and audiographics teleconferencing. . . video conferencing most closely resembles face-to-face meetings and can seem to be more personal and intimate. Not only can people hear what is being said but they can also see the speaker. (p. 193)

The major disadvantages of video conferencing systems are their cost and limitations in linking multiple locations (Olgren & Parker, 1983).

History of Video Teleconferencing in Education

Satellite video teleconferencing started with the launch of the Advanced Technological Satellite (ATS 6) in 1974. The initial experiments were conducted in Appalachia, the Rocky Mountains, and Alaska (Olgren & Parker, 1983).

In 1976-1977, Hermes was carried out. That was a joint project between the United States and Canada, also known as the Communications Technological Satellite (CTS). That project produced some unique video teleconferencing demonstrations (Olgren & Parker, 1983).

In 1976 the University of Quebec participated in the diversified satellite research project called "Omnibus network," aimed at experimenting with new communication channels between units of the university's network of institutions (Olgren & Parker, 1983).

Satellite video teleconferencing was introduced very recently in extension education. The first land-grant colleges to introduce the

technique were Oklahoma State, Iowa State, Ohio State, Kansas State, University of Maryland, and Virginia Polytechnic Institute and State University (Whiting, 1988, June). Oklahoma State University's Division of Agriculture, predominantly through its Cooperative Extension service, was the first to adopt, as early as 1985 (Oklahoma State University, Cooperative Extension Service, Division of Agriculture, 1989). Within the next three years, 58 downlink dishes were installed in or near county extension offices in Oklahoma. About 60 video conferences have been aired so far.

Kansas State University had conducted four teleconferences in 1986-1987, on topics such as legislation, youth and alternative crops (Eckles & Miller, 1987).

Ohio Cooperative Extension Service aired the first conference in February 1987 on bovine respiratory diseases. Until August of 1989, 24 dishes were installed in the counties, and there are plans for more. So far, OCES has aired about 40 teleconferences (L. R. Whiting, personal communication, August 3, 1989).

In 1987, Iowa State University Extension offered the Master Gardener program at 16 downlink locations in Iowa using the satellite video conference technique (Eckles & Miller, 1987).

The University of Maryland began in 1987 with a program on federal farm policy (Whiting, 1988, June).

In Virginia, VCES aired the first teleconference in April 1987, and in the first six months produced 16 teleconferences, totaling 25 thirty-minute broadcasts (Murphy, 1987, October).

Other states doing considerable satellite video teleconferencing are Minnesota and Nebraska (Eckles & Miller, 1987). In addition to the land-grant institutions, USDA has done a national video teleconference in 1986 on equal employment opportunities and civil rights. Five thousand USDA managers and supervisors took part (Bay, cited in Eckles & Miller, 1987). Several other USDA programs have been aired since that time.

Literature on the Attitudes of Educators Toward Educational Communication Technologies

Because of insufficient literature on satellite video teleconferencing, attitudes of educators toward other kinds of educational telecommunication technologies will also be considered as relevant to this study, namely instructional television in primary and secondary school. Findings have not always been consistent.

Cambre (1989a) reports that when instructional television was first introduced in American schools in the late 1950s, it was considered by some a "master teacher" that would eventually replace conventional teachers. The master teacher idea spawned studio classrooms in which "talented" teachers conducted classes that were broadcast widely. However, "the master television teacher concept did more to threaten classroom teachers and bore students than it did to promote the use of instructional television or to solve the problems of education" (Cambre, 1989a, p. 9).

At an informal poll of instructional television utilization specialists in the central U.S., Cambre asked, "What do you consider to be the single-most important deterrent to the use of instructional television in your area?" Eleven of the 20 respondents indicated that "getting to the teacher," either to change negative attitudes or to communicate information, was the major challenge they faced (Cambre, 1989b,p. 120). It is significant to note (with some reservation, since the survey procedure was not adequately described) that more than half of the specialists considered reaching the teachers to be their primary concern.

The 1983-84 Maryland Instructional Television utilization study by Jones (1984) revealed more positive attitudes. The general attitudes of Maryland non-chair, non-specialist school teachers toward instructional TV were 48.5% "in favor," 50.3% "neutral" and 1.2% "against." That was a replication of a 1980-81 study that had resulted in 42.7%, 55.8% and 1.5% respectively. This writer believes that the comparison indicates a positive change in attitudes. However, it is worth noting that although in the second study, 77.3% of the respondents thought "ITV is a useful teaching tool," only 48.5% gave an overall "in favor" response in the attitude section.

In its early years, instructional television had been used in extension, as well. As early as 1965, Alexander et al. found that extension agents were overall positive toward television as a medium for extension teaching (Alexander, 1965). Fifty-nine percent indicated it is either "the best or one of the better means,"

and 31% "about the same as a number of other means." The "home demonstration" agents were the strongest supporters (that is 80% positive, as compared to 51% for agriculture and 46% for 4-H).

The University of Georgia, Division of Vocational Education (1987) reports the results from an evaluation of an in-service video conference for post secondary vocational faculty. To the question, "Would you recommend video teleconferencing as a suitable alternative instruction delivery method?", 90.2% answered "yes." However, this writer thinks the findings have limited value beyond the particular video conference.

A study from the University of Nebraska (1983) found that extension staff resisted cable TV as time consuming and expensive.

Jack Burke, of Kansas State University, has done an evaluation of the first video conference of his institution. Most agents commented that the satellite is a very good way to reach many and different audiences (cited in Eckles & Miller, 1987). However, the findings cannot be generalized beyond that first video conference. Exact figures are not provided.

In an evaluation of an in-service Ohio Cooperative Extension Service video conference, only 32.7% of the respondents agreed that all county offices should install satellite dishes (Ohio Cooperative Extension Service, 1987b), which is quite surprising, given the fact that the same group gave a very high rating to effectiveness. One possible explanation, derived from the comments of the evaluation, was concern for the high installation costs of dishes.

Oklahoma State University reports that 70% of the county personnel believe that video conferencing in cooperative extension is generally an effective technology. However, perceptions concerning the educational benefits were "lukewarm" (Oklahoma State University, Cooperative Extension Service, Division of Agriculture, 1989). In addition, most respondents at the county level (CES personnel and clientele) believe that application of the same resources to more traditional educational activities would generate better results. Exact figures were not reported. This writer thinks that findings are inconsistent possibly because the agents like the technique in principle, but worry about cost-effectiveness.

Another study was done in Oklahoma regarding attitudes toward in-service video teleconferences (Oklahoma State University, Cooperative Extension Service, Division of Agriculture, 1989). Of all staff that responded, 82.5% said video conference staff meetings should be continued, and 10.8% said no. However, only 67.5% of the respondents were county staff, and the report does not mention the response rate of the survey.

The "Fear of Displacement" Issue

The following literature attempts to interpret some of the negative attitudes in earlier studies based on the "fear of displacement." When a new technology is first introduced in education, some educators seem to adopt a defensive position.

Schramm (1973) says that when instructional television was first introduced in Niger, "The opposition came from the educational establishment--the Ministry whose curriculum and methods were rejected and who did not have control over the new classes. It came also from the teachers' union whose members were rejected in favor of untrained monitors" (Schramm,1973, p.166). In American Samoa, the resistance came from the secondary school teachers that "became dissatisfied with having to share so much of the teaching with the television teacher" (Schramm, 1973, p.166). In El Salvador, the chief opposition came also from the teachers' union, which was "dissatisfied with salaries, and struck at television mainly because they felt the money it cost should have gone into higher pay for classroom teachers" (Schramm, 1973, p.166).

Tiene and Futagami (1987) believe that opposition from within the educational establishment may reflect the conservative orientation of some educators, who may feel threatened by the presence of a receiver in the classroom which can hold student attention more effectively than they can. They also say that teachers' unions in developing countries question the instructional adequacy of television classrooms and declare them demeaning to the teaching profession: "In fact, opposition to media projects often arises from well established representatives of the education field; ministry officials, union leaders, fully certified teachers, academicians, etc." (Tiene & Futagami, 1987).

Eastmond, et al. (1987) in his survey in Utah found a certain amount of insecurity on the part of the teachers in using telecourses.

Pease and Threlkeld (1984) discuss changes that telecommunications bring about in college education. The paper is not about teleconferencing or instructional television in particular, but more general in nature. Professors/faculty, administrators, staff (especially librarians), and even students and alumni are considered the "stakeholders" of traditional education and a potential reactive force against any communication technology. Professors and librarians are the present "gatekeepers" of the information commodity, and they won't allow anyone to by-pass them in order to get to the information:

> Presently, many faculty members deal with issues around new technology by ignoring them, discounting their potential impact, and by voting in policy safeguards to prevent confrontation of and by new alternative information services. As Hiltz (undated) states, 'Indeed, it is my impression that many existing colleges and universities will regard tele-education not as a great new opportunity, but as a great new threat.' (pp. 389-390)

This writer would hypothesize that a similar attitude might exist among extension agents, since teleconferencing, in the way used by the extension, seems to by-pass the county agent as a source of information.

On the contrary, Hilton (1982) is more optimistic about adult educator acceptance of new technologies. He says that, "Wise and adaptable faculty will likely become involved . . . and will either

prepare themselves for responsible positions in the new order or will work to clarify those services that cannot be provided by the technologies" (p. 25). He doesn't recite any research to support his point.

From what is reported in the literature so far, it is concluded that introduction of new communication technologies in schools and extension education is not always welcomed by educators, although findings vary and are not consistent. As far as satellite video teleconferencing in extension is concerned, the conclusion from the literature is that very little is known on the subject, probably because the technique is in the early stage, and in most of the U.S. non-existent.

CHAPTER III
PROCEDURES

Research Design

This study is survey research. Questionnaires were mailed to all county extension agents who were working in the Ohio Cooperative Extension Service from July 3 to August 10, 1989, that is, for the duration of this study, and were hired before January 1, 1989. The research design borrows a lot from Dillman (1978). However, some of Dillman's suggestions were altered so as to increase efficiency. On-line electronic mail messages were used, instead of post card reminders. This method was chosen because all county extension agents have access to an on-line computer. An initial warning of an upcoming survey was sent out a week before the survey, and a total of three electronic reminders were sent to all agents afterwards. Therefore, a second mailing with a replacement questionnaire was not considered necessary, although additional questionnaires were available upon request. Nobody asked for a replacement questionnaire. The questionnaires and the messages were sent from the Section of Information and Applied Communications of the OCES at The Ohio State University.

The mail-out package consisted of the questionnaire, a cover letter, a self-addressed, stamped, return envelope, and a prepaid

post card with an identification number, which was intended to be mailed back separately. The agents were assured of complete anonymity, so the separately mailed numbered postcard had to be used in order to keep track of the respondents. No association of postcards to questionnaires was possible.

The cover letter explained the purpose of the study, emphasized its significance and requested the cooperation of the agents. A telephone number for questions was included. The cover letter is appended to this report.

A deadline was given in the cover letter. The respondents were given about three weeks to complete and return their questionnaires.

Every possible effort was made to eliminate threats to external validity of the study.

There was no sampling error, because there was no sample drawn. The study included all members of the population for which information was sought.

Frame error existed in the mailing list, because three agents had resigned since the list of the personnel was issued. The response rate was adjusted accordingly.

Selection error was eliminated by ensuring there were no duplications in the mailing list.

A follow-up procedure was established for the non-respondents. Randomly selected non-respondents were followed up

by telephone to determine any differences in attitudes between respondents and non-respondents.

Measurement error was controlled by establishing validity of the instrument. Reliability was checked after the study for the attitude section and was found adequate.

Subject Selection

Participating subjects were all the 186 county extension agents who were working in the Ohio Cooperative Extension Service from July 3 to August 10, 1989, that is, for the duration of this study, and were hired before January 1, 1989. Agents that were hired after January 1, 1989 were excluded, because they were less likely to have organized or participated in a teleconference while working at the OCES.

A list of names and addresses of 189 agents was obtained from the Ohio Cooperative Extension Service. There was a frame error in the list, because three agents had resigned since the list was issued. On the day of the mailing, the population was 186 extension agents.

Outcome Measures

The appropriate instrument was developed to collect information on attitudes. The items were rated on a 5-point Likert-type scale, except for the personal characteristic questions, the

experience with the technique questions, and the open-ended comments. Subjects were required to respond to a series of statements according to their degree of agreement. The options were, SA=strongly agree, A=agree, U=undecided, D=disagree, SD=strongly disagree. Some items were copied as they were, or slightly modified, from the following publications: Sanders and Sonnad (1982), University of Georgia, Division of Vocational Education (1987), Jones (1984), while others had to be constructed by this writer. Several of the items were contributed by Larry Whiting. Personal characteristic items collected information about age, numbers of years in service, program area, district, ownership status of the following: personal computer, satellite dish, VCR, compact disc player. Information was asked about the experience of the agents with satellite video teleconferencing: number of video conference meetings held in the last three years, number of video conference meetings attended in the last three years, availability of satellite dish at the county office, plans for purchasing a dish in the future, accessibility to a dish other than at the county office, use of pre-conference activities and materials, use of post-conference activities and materials, and how the agents rate the various media of information delivery.

The general guidelines of Dillman (1978) were followed for the design of the instrument. The instrument was designed to be self-administered, and to take no more than 20 minutes to complete. Except for information on attitudes, personal characteristics, and

experience with the technique, the instrument was designed to collect a variety of other information that is not reported in this study.

Content validity of the instrument was established by submitting it to a panel of experts from the Section of Information and Applied Communication. Sections of the first draft of the instrument were revised according to recommendations from the panel.

The instrument was not pilot tested because of time constraints. Reliability of the attitude section of the instrument was checked after the study and it was found to be adequate (Cronbach's alpha = .91, standardized item alpha= .91).

The instrument is appended to this report.

Conditions of Testing

An announcement of the upcoming survey was sent through the statewide computer system about a week before the mailing.

The packages were mailed out on July 3, 1989. The mail out package included: a. a cover letter, explaining the importance of the study and urging response, signed by Larry Whiting, head of the Section of Information and Applied Communications, b. the questionnaire, c. a self-addressed, stamped, return envelope, and d. a prepaid post card with an identification number, to be mailed separately to keep track of the responses. The deadline was July 28,

1989, but responses were accepted until August 10, 1989, so as to include responses from agents who had been on summer vacations.

Three electronic reminders were sent. The first reminder was sent on the day that approximately one third of the questionnaires came back. That was before the deadline expired, so as to prompt quicker response.

A second mailing was not considered necessary, because the response rate by August 10, 1989, was satisfactory.

One-hundred and fifty questionnaires were returned by August 10, 1989, for a response rate of 80.6%. Of those that came back, 147 were usable, giving a usable return rate of 79.0%. The three unusable were returned blank because those individuals did not feel qualified to answer or did not have adequate time to respond.

A follow up procedure was employed to check for non-response error. Every third person was picked out of an alphabetical list of the non-respondents and was interviewed by telephone. A total of six non-respondents were interviewed with this method. Their responses were found to be similar to the respondent group, so their attitudes are considered not to be different from the respondent group.

Data Analysis

The computer software used for data analysis was the Statistical Package for the Social Sciences (SPSS/PC+ ™ V2.0).

A summative attitude score for the attitude section was computed, as well as its frequency. Means, counts, and frequencies were computed for each individual item in the attitude section, personal characteristics, and experience with satellite video teleconferencing. Also, the mean ratings for the media of information delivery were computed. Finally, cross tabulation tables were executed for each personal information and experience variable by attitude score.

CHAPTER IV
FINDINGS

The organization of this chapter into sections follows from the organization of the research questions in chapter one. The first section in this chapter reports the personal characteristics of the population. The second section reports experience with satellite video teleconferencing. The third section reports the ratings given to various media of information delivery. The fourth reports overall attitudes. The fifth section reports the relationships between personal characteristics and the variable attitude score. Finally, the sixth section reports the relationship between experience with satellite video teleconferencing and the variable attitude score.

Personal Characteristics

Years in Service

Respondents were asked to indicate the category that applied to them. Results show that the majority of the respondents (62.3%) have worked for 10 or more years in extension in Ohio (see Table 1).

Table 1

Years in Service of Respondents

Year Group	f	%
0-3 YEARS	15	10.3
4-6 YEARS	12	8.2
7-9 YEARS	28	19.2
10 OR MORE	91	62.3
Total	146	100.0

Age

Respondents were asked to indicate their age group. Of 147 respondents, 75 subjects (52.4%) were between 36 and 45 years old (see Table 2).

Table 2

Age of Respondents

Age Group	f	%
UNDER 25 YEARS	0	0.0
25-35 YEARS	40	28.0
36-45 YEARS	75	52.4
46-55 YEARS	25	17.5
OVER 55 YEARS	3	2.1
Total	143	100.0

Program Area

Respondents were asked to indicate their extension program area. The total percentage exceeds 100% because some belong to more than one program area (see Table 3).

Table 3

Program Area of Respondents

Program Area	f	%
AGRICULTURE	54	37.8
HOME ECONOMICS	44	30.8
4-H/YOUTH	56	39.2
CNRD*	49	34.3

*Community and Natural Resources Development

District

The subjects were asked to indicate the district in which their county is located. Findings are displayed in Table 4.

Table 4

District Where County Is Located

District	f	%
NW	28	19.9
SW	41	29.1
E	23	16.3
NE	30	21.3
S	19	13.5
Total	141	100.0

Technology Ownership

The subjects were asked to indicate which of the following equipment they own for their personal use: personal computer, satellite dish, VCR, compact disc player. The results show that 123 (85.4%) of the respondents own a VCR, but only 10 (6.9%) own a satellite dish (see Table 5).

In addition to the counts and percentages for each item, the number of equipment items per person was computed, and the results are presented in Table 6. It is interesting that the majority of the respondents own one, two, or three of these items, but no one owns all four items.

Table 5

Technology Ownership of Respondents

Type of Equipment	f	%
PERSONAL COMPUTER	60	41.7
SATELLITE DISH	10	6.9
VCR	123	85.4
COMPACT DISC PLAYER	15	10.4

Table 6

Number of Technology Items Owned by the Respondents

Number of Items	f	%
0	19	12.9
1	61	41.5
2	54	36.7
3	13	8.8
4	0	0.0
Total	147	100.0

Experience with Satellite Video Teleconferencing

Number of Meetings Organized

Respondents were asked how many satellite video conference meetings they have held or organized in the last three years. The majority (79.5%) organized three meetings or less. No one organized more than 10 meetings (see Table 7).

Table 7

Number of Meetings Organized by the Respondents in the Last Three Years

Number of Meetings	f	%
0-3	116	79.5
4-6	28	19.2
7-9	2	1.4
10 OR MORE	0	0.0
Total	146	100.0

Number of Meetings Attended

Respondents were asked how many satellite video conference meetings they have attended in the last three years. Of all agents, 40.4% have attended three meetings or less, and 41.1% indicated from four to six meetings (see Table 8). A comparison with the previous table indicates that the agents have much more experience attending rather than organizing meetings, possibly because they are required to attend some in-service video teleconferences.

Table 8

Number of Meetings Attended by the Respondents in the Last Three Years

Number of Meetings	f	%
0-3	59	40.4
4-6	60	41.1
7-9	24	16.4
10 OR MORE	3	2.1
Total	146	100.0

Availability of Dish

The subjects were asked to indicate whether they have a satellite dish in their county. Of all respondents, 28 (19.2%) answered "yes," and 118 (80.8%) answered "no."

Plans to Purchase a Dish

The respondents who do not have a satellite dish were asked to indicate whether their county plans to install one in the future or not. Of those, 39 (36.8%) answered "yes," and 67 (63.2%) answered "no."

Accessibility to a Dish

The respondents who neither have a satellite dish nor plan to install one were asked to indicate whether they and their meeting groups have access to a local dish elsewhere. Of those, 63(56.8%) answered "yes," and 48 (43.2%) answered "no."

Pre-conference Activities

Respondents were asked to indicate whether they usually have some pre-conference activities at their meetings or not (e.g. delivery of print material, discussion). To this item, 90 respondents (67.7%) answered "yes," and 43 respondents (32.3%) answered "no."

Post-conference Activities

Respondents were asked to indicate whether they usually have some post-conference activities at their meetings or not (e.g. delivery of print material, discussion). To this item, 99 respondents (75.6%) answered "yes," and 32 respondents (24.4%) answered "no."

Preference Toward Various Media of Information Delivery

The respondents were given a list and asked to assign a value from 1 to 10 to various media of information delivery, according to how much they like using them in their job. The same number could be used more than once, and not all numbers from 1 to 10 had to be used. Table 9 presents the mean scores for each item in the list. Educational video tapes, bulletins and fact sheets, and newsletters seem to be the most popular preferences, whereas audio tapes and poster sessions were the least popular. Satellite video teleconferencing was given a rating of 5.5.

Table 9

Preference Toward Various Media of Information Delivery

Source	$\bar{x}$	Count
EDUCATIONAL VIDEO-TAPES	7.6	137
BULLETINS AND FACT SHEETS	7.3	137
NEWSLETTERS	7.3	138
NEWS RELEASES	7.2	136
TRANSPARENCIES/OVERHEADS	6.6	135
COMPUTERS (E-MAIL AND BULLETIN BOARDS)	6.4	134
EXHIBITS AND DISPLAYS	6.1	127
SLIDE/TAPE PRESENTATIONS	6.0	135
SLIDES	5.9	135
RADIO PROGRAMS	5.8	130
SATELLITE VIDEO CONFERENCES	5.5	131
EDUCATIONAL FILMS	5.0	128
AUDIO TAPES	4.0	127
POSTER SESSIONS	3.9	115

Overall Attitudes

Respondents were asked to respond to a series of 21 statements regarding satellite video teleconferencing in Ohio. A 5-point Likert-type scale was used. The options were, SA=strongly agree, A=agree, U=undecided, D=disagree, SD=strongly disagree. Mean scores, frequencies and counts were computed for each item. Table 10 displays the frequencies, means and counts by individual item. In addition, a summative attitude score for the attitude section was computed to create a new variable, "attitude score." Based on their attitude score, respondents were categorized into four categories: Extremely positive, somewhat positive, somewhat negative, extremely negative. According to this classification, the majority of the agents (70.6%) were "somewhat positive" toward the technology. Table 11 displays the results for the attitude score.

Table 10

Results From the Overall Attitude Section of the Questionnaire (by Individual Item)

Questionnaire Item		Frequencies					$\bar{x}$	Count
		SA	A	U	D	SD		
1.	In general, state OCES specialists do an excellent job in planning and presenting satellite video conferences.	3	72	29	38	1	2.7	143
2.	In general, OCES satellite video conferences are better than those from other states.	2	23	87	27	3	3.0	142
3.	Satellite video conferencing is just another technical wizardry with no actual value for Extension.	1	4	20	91	27	4.0	143
4.	I would recommend the OCES satellite video conferences to my colleagues in other states.	6	85	39	11	2	2.4	143
5.	I would like to see more satellite video conferences in the future.	16	69	39	17	3	2.5	144
6.	More county Extension offices in Ohio should install satellite dishes.	20	65	37	17	4	2.4	143
7.	OCES satellite video teleconferences should be discontinued.	2	3	27	81	29	3.9	142
8.	OCES Satellite video teleconferences have been uniformly high in quality for the last three years.	1	42	33	53	14	3.3	143
9.	In general, I feel that satellite video conferences as an educational resource are irreplaceable.	2	21	48	62	10	3.4	143
10.	Satellite video conferencing makes my job more complicated than it needs to be.	1	20	38	81	4	3.5	144
11.	Satellite video conferencing helps improve the image of OCES in general.	8	77	39	19	1	2.5	144
12.	Satellite video conferencing is so efficient it may eventually replace conventional techniques of teaching in Extension Education.	1	11	14	65	52	4.0	143

Table 10 (continued)

13.	I think that OCES satellite video conferences are worth the expense.	4	59	56	20	5	2.7	144
14.	More money should be allocated for OCES satellite video teleconferences in the future.	4	51	62	23	4	2.8	144
15.	One of the first things to go in a tight budgetary environment should be satellite video teleconferences.	6	34	47	54	3	3.0	144
16.	It is easier to justify funding for OCES video teleconferencing now, than when they first started.	1	74	50	17	2	2.6	144
17.	Organizing video conference meetings is a waste of time for me.	3	16	51	71	3	3.4	144
18.	Satellite video conferencing is a waste of time for the Extension Service in general.	1	4	38	90	11	3.7	144
19.	Incorporating satellite video conferencing in my work makes me look more up-to-date and professional with clientele.	9	85	27	19	4	2.5	144
20.	Satellite video conferencing makes me lose some of my importance as an Extension Educator.	1	2	22	106	13	3.9	144
21.	If used extensively, satellite video conferences are a potential threat to my job security.	1	1	11	91	39	4.2	143

Legend

SA=Strongly Agree (1 point)
A=Agree (2 points)
U=Undecided (3 points)
D=Disagree (4 points)
SD=Strongly Disagree (5 points)

Table 11

Summative Results From the Overall Attitude Section of the Questionnaire (Attitude Score)

Attitude Category	Attitude Score	f	%
EXTREMELY POSITIVE	21-41	9	6.6
SOMEWHAT POSITIVE	42-62	96	70.6
SOMEWHAT NEGATIVE	63-83	28	20.6
EXTREMELY NEGATIVE	84-105	3	2.2
Total		136	100.0

Cross tabulation: Personal Characteristics by Attitude Score

Cross tabulations were run in order to find out the relationship between each one of the personal characteristics and attitude score. Generally, the relationships range from negligible to low. Findings are displayed in Tables 12-19.

Table 12

Years in Service by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
0-3 YR	1 7.1	11 78.6	2 14.3	0 0.0	14 100.0
4-6 YR	0 0.0	7 70.0	3 30.0	0 0.0	10 100.0
7-9 YR	4 16.7	16 66.7	3 12.5	1 4.2	24 100.0
≥10YR	4 4.5	62 70.5	20 22.7	2 2.3	88 100.0

The relationship between years in service and attitude score is negligible (Kendall's Tau b= .09).

Table 13

Age by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
<25 YR	- -	- -	- -	- -	- -
25-35 YR	4 10.8	24 64.9	8 21.6	1 2.7	37 100.0
36-45 YR	5 7.1	50 71.4	14 20.0	1 1.4	70 100.0
46-55 YR	0 0.0	19 82.6	3 13.0	1 4.3	23 100.0
>55YR	0 0.0	1 33.3	2 66.7	0 0.0	3 100.0

The relationship between age of the agents and attitude score is negligible (Kendall's Tau c= .04).

Table 14

Agriculture Program Area by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
NO	4 4.9	59 72.8	17 21.0	1 1.2	81 100.0
YES	5 9.6	35 67.3	10 19.2	2 3.8	52 100.0

The relationship between whether an agent has responsibilities in the Agriculture program area and attitude score is low (Cramer's V= .13). Agents who are responsible for Agriculture tend to have a slightly more positive attitude toward satellite video teleconferencing.

Table 15

Home Economics Program Area by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
NO	7 7.4	65 68.4	21 22.1	2 2.1	95 100.0
YES	2 5.3	29 76.3	6 15.8	1 2.6	38 100.0

The relationship between whether an agent has responsibilities in the Home Economics program area and attitude score is negligible (Cramer's V= .09).

Table 16

4 H/Youth Program Area by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
NO	4 5.0	57 71.3	16 20.0	3 3.8	80 100.0
YES	5 9.4	37 69.8	11 20.8	0 0.0	53 100.0

The relationship between whether an agent has responsibilities in the 4 H/ Youth program area and attitude score is low (Cramer's V= .15). Agents who are responsible for 4 H/ Youth tend to have a slightly more positive attitude toward satellite video teleconferencing.

Table 17

CNRD Program Area by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
NO	4 4.7	64 74.4	16 18.6	2 2.3	86 100.0
YES	5 10.6	30 63.8	11 23.4	1 2.1	47 100.0

The relationship between whether an agent has responsibilities in the Community and Natural Resources Development program area and attitude score is low (Cramer's V= .14). Agents who are responsible for Community and Natural Resources Development tend to have a slightly more positive attitude toward satellite video teleconferencing.

Table 18

District by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
NW	5 17.9	21 75.0	2 7.1	0 0.0	28 100.0
SW	0 0.0	26 70.3	10 27.0	1 2.7	37 100.0
E	1 4.5	18 81.8	3 13.6	0 0.0	22 100.0
NE	2 7.4	17 63.0	6 22.2	2 7.4	27 100.0
S	1 5.6	11 61.1	6 33.3	0 0.0	18 100.0

The relationship between the district where the agent is located and attitude score is low (Cramer's V= .22). Agents who are working in the NW district tend to have a slightly more positive attitude toward satellite video teleconferencing.

Table 19

Technology by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
0 ITEMS	0 0.0	12 70.6	5 29.4	0 0.0	17 100.0
1 ITEM	4 6.8	44 74.6	11 18.6	0 0.0	59 100.0
2 ITEMS	5 10.2	32 65.3	10 20.4	2 4.1	49 100.0
3 ITEMS	0 0.0	8 72.7	2 18.2	1 9.1	11 100.0
4 ITEMS	- -	- -	- -	- -	- -

The relationship between technology variable (that is, number of technology items for personal use at home) and attitude score is negligible (Kendall's Tau c= .01).

Cross tabulation: Experience with Teleconferencing by Attitude Score

Cross tabulations were run in order to find out the relationship between the experience of the agents with satellite video teleconferencing and attitude score. Generally, the relationships range from negligible to moderate. Findings are displayed in Tables 20-26.

Table 20

Numbers of Meetings Organized by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
0-3	5 4.7	75 70.8	23 21.7	3 2.8	106 100.0
4-6	3 10.7	20 71.4	5 17.9	0 0.0	28 100.0
7-9	1 50.0	1 50.0	0 0.0	0 0.0	2 100.0

The relationship between the number of meetings organized and attitude score is low (Kendall's Tau b= -.13). Agents who have organized more meetings tend to have a slightly more negative attitude toward satellite video teleconferencing.

Table 21

Numbers of Meetings Attended by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
0-3	1 1.9	39 72.2	12 22.2	2 3.7	54 100.0
4-6	4 7.1	37 66.1	14 25.0	1 1.8	56 100.0
7-9	2 8.7	19 82.6	2 8.7	0 0.0	23 100.0
≥10	2 66.7	1 33.3	0 0.0	0 0.0	3 100.0

The relationship between the number of meetings attended and attitude score is low (Kendall's Tau b= -.18). Agents who have attended more meetings tend to have a slightly more negative attitude toward satellite video teleconferencing.

Table 22

Availability of Dish by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
YES	4 14.3	21 75.0	2 7.1	1 3.6	28 100.0
NO	5 4.6	75 69.4	26 24.1	2 1.9	108 100.0

The relationship between availability of dish at the county and attitude score is low (Cramer's V= .22). Agents who have a satellite dish at the county tend to have a slightly more positive attitude toward satellite video teleconferencing.

Table 23

Plans to Purchase a Dish by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
YES	4 10.8	27 73.0	5 13.5	1 2.7	37 100.0
NO	1 1.6	41 67.2	18 29.5	1 1.6	61 100.0

The relationship between plans to purchase a satellite dish at the county office and attitude score is low (Cramer's V= .26). Agents who plan to purchase a dish in their county tend to have a slightly more positive attitude toward satellite video teleconferencing.

Table 24

Accessibility to a Dish by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
YES	3 5.2	44 75.9	8 13.8	3 5.2	58 100.0
NO	2 4.7	24 55.8	17 39.5	0 0.0	43 100.0

The relationship between accessibility to a dish other than at the county office and attitude score is moderate (Cramer's V= .32). Agents who say that they have access to another local receiving site tend to have a more positive attitude toward satellite video teleconferencing.

Table 25

Pre-Conference Activities by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
YES	7 8.2	64 75.3	12 14.1	2 2.4	85 100.0
NO	2 5.1	24 61.5	12 30.8	1 2.6	39 100.0

The relationship between whether an agent uses pre-conference activities and attitude score is low (Cramer's V= .20). Agents who usually have some pre-conference activities tend to have a slightly more positive attitude toward satellite video teleconferencing.

Table 26

Post-Conference Activities by Attitude Score

	Attitude Score				
	EXTREMELY POSITIVE	SOMEWHAT POSITIVE	SOMEWHAT NEGATIVE	EXTREMELY NEGATIVE	ROW TOTAL
YES	8 8.6	71 76.3	13 14.0	1 1.1	93 100.0
NO	1 3.4	17 58.6	9 31.0	2 6.9	29 100.0

The relationship between whether an agent uses post-conference activities and attitude score is low (Cramer's V= .26). Agents who usually have some post-conference activities tend to have a slightly more positive attitude toward satellite video teleconferencing.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the findings of this study, the following conclusions were drawn:

1. A little more than half of the County Extension Agents in Ohio are in the 36-45 age group. The majority has worked for 10 years or more in extension in Ohio. Agents are distributed more or less evenly across the four extension program areas. The majority of the subjects own one or more of the following: personal computer, satellite dish, VCR, compact disc player. However, no one owns all four pieces of equipment. Although most of the subjects own a VCR, very few own a satellite dish.
2. The experience of the agents with organizing satellite video teleconferences is limited. The majority of them have organized a video teleconference three times or less in the last three years, and no one has organized 10. Their experience with attending teleconferences is higher, but even then the majority has not attended more than six in the last three years. These numbers are very low compared to the total video teleconference production of the OCES, but are due in part to the fact that few counties have their own dish. Only one fifth

of the agents said they have a dish at their county office. The majority either plan to purchase one in the future or have access to another local dish. The majority of the agents said that they usually have some pre- and post-conference activities at their video teleconference meetings. Post-conference activities seem to be more frequent than pre-conference.

3. Among all media of information delivery, educational video tapes, bulletins and fact sheets, and newsletters are the top preferences of extension agents. Satellite video teleconferences ranked eleventh out of 14 choices. The least preferred choices were poster sessions and audio tapes.

4. The overall attitude of the County Extension Agents toward satellite video teleconferencing is "somewhat positive." Only one fifth is "somewhat negative," and the remainder are divided between "extremely positive" and "extremely negative." It is interesting to note that the agents don't want satellite video teleconferences to be discontinued; however, they don't agree that video conferencing "is so efficient that it may eventually replace conventional techniques of teaching in extension." An interesting finding is that the agents don't think that satellite video teleconferencing makes them lose some of their importance as extension educators. This is contrary to what some of the literature says, namely that school teachers have found instructional TV demeaning to their

profession, and in some cases resisted its introduction in schools. Contrary to the literature is also the fact the agents do not perceive the new technology as a threat to their job security. This may be because teleconferencing is not used as frequently as it would be necessary to make it a potential threat to the profession. Also, it may be that the agents feel that the specialists who appear on TV cannot possibly teach everything about a topic, so they always leave room for the county agent to follow up. Some agents believe that the topics are not relevant, either because they fall outside their extension program area, or because they are employed in urban areas and they don't find the topics very relevant to urban needs (see open-ended comments in Appendix C). These agents do not feel that the TV specialists by-pass them as educators, for the simple reason that they cover a different subject matter.

5. The relationship between the years of employment in Ohio extension and overall attitude is negligible. The relationship between technology at home (number of equipment items) and attitude toward satellite video teleconferencing was also found to be negligible. This last finding is contrary to what was expected. One would hypothesize that the agents who are more accustomed to technology at home would be more positive toward satellite video conferencing. Age of the respondents has a negligible relationship with attitude, also contrary to

what was expected, that is, younger staff would be substantially more positive toward new technologies. The relationship between the program area of the respondents and their attitude ranges from low to negligible, according to the program area. Finally, there appears to be a low relationship between the district where the county is located and attitude. Northwest district appears to be a little more favorable than the others, may be because it is the district with the most satellite dishes installed, and the agents are more familiarized with teleconferencing.

6. There is a low relationship between the number of video teleconference meetings organized and attitude score. That means that the agents who have more experience organizing video teleconferences, are slightly more negative. A similar relationship was found between the number of teleconference meetings attended and attitude score. The relationship between availability of a dish at the county office and attitude is low. The same holds true for the "plans to install a dish in the future" variable. In other words, agents who have a dish in their county, or plan to install one, are slightly more positive toward the technology. When a dish at the county office is not available, a moderate relationship was found between attitude and accessibility to another local dish. In other words, when agents and clientele can have access to

another dish, agent attitude tends to be more favorable. Finally, there is a low relationship between pre- and post-conference activities and attitude, that is, agents who use pre- and post-conference activities tend to be slightly more positive.

Recommendations for Implementation

It seems that the county extension agents are overall in favor of satellite video teleconferencing. This finding is optimistic for the future of teleconferencing. The installation of dishes in the rest of the 88 counties will not encounter reaction on the part of the agents. It seems that if finances allow and clientele are satisfied with video teleconferencing, the technology will continue to grow and expand. The implication for extension program planning is that extension may continue financing this technology for the next few years, and perhaps cost-sharing should be considered as an incentive for the purchase of dishes in the rest of the counties.

The relationship between age, years in service, program area, district, ownership of technology, experience and attitude toward teleconferencing ranges from negligible to moderate; therefore, these variables should not play a very important role in program planning.

A very important finding from this study is that agents prefer video tapes over the live program. The obvious implication is that more emphasis should be placed in producing educational video

tapes and expand their distribution channels, and this should include but not be limited to the tapes from the video conferences.

One can speculate that agents prefer video tapes because they have much better control over the situation. They are confident that their TV monitor and VCR will function more properly than the satellite dish that has to be tuned right before the conference. They are afraid that the live program might not be received because of some technical problem. Once, the uplink transmitter failed just 10 minutes before one program was to air (L. R. Whiting, personal communication, September 13, 1989). Sometimes agents who organized local meetings around the program were left with a room full of people and no program (L. R. Whiting, personal communication, September 13, 1989). Video tapes and VCR technology seem to be more familiar and reliable to operate.

Quality of production of the satellite programs should be given special attention. It is evident both from the Likert-type responses and the open-ended comments that agents and clientele expect high broadcast quality, equivalent to that of commercial and public television.

Agents should be given motivation and incentives to attend and organize more video conferences, otherwise the technology will not be as cost-effective as it should be. It is not enough to buy dishes for all the counties. New ways of incorporating satellite video teleconferencing in extension programs must be developed. Special training of the agents may be useful in this respect, so that they

become aware of the potential of this technique. Better promotion of video conferences and better and more frequent supplemental materials may also prove helpful. An important incentive would be to involve the agents in the planning phase of video teleconferences. Agents should have the opportunity to provide their input. They should not be expected to support satellite video teleconferencing unless they are able to express their opinion on program content and format.

Recommendations for Further Research

This survey actually collected much more data than was necessary to meet the objectives of this report. The instrument collected information on perceptions of agents toward format and scheduling, educational value, promotion, publicity, administration, planning and uses of teleconferencing. Therefore, the most imperative research recommendation is that the rest of the data collected during this study be analyzed. Some of the findings would be very interesting, e.g. what would be the relationship between attitude score and perceptions of leadership provided by extension administrators? Do the agents perceive leadership as adequate?

The next logical step beyond this study is a survey of the clientele. The attitude of the clientele is equally important for the successful implementation of video teleconferences, because clientele is the group that is intended to be served by extension. Research

objectives should be to find out the number of clientele who watch at home versus those who watch at the county office, the degree of acceptance of the program format and content, and to get useful feedback for further improvement of the programs. Such a survey will be much more difficult to accomplish because of the size, diversity in educational level and economic status, and overall heterogeneity of the audience, but will be worth the effort.

Another field for further research is an evaluation of the cognitive impact of video teleconferencing versus other media or the live person-to-person contact, which may require an experimental design. It has yet to be determined whether or not the technique results in significant learning gains.

Finally, both extension administrators and researchers should be aware that satellite video teleconferencing, like all technologies, is not a panacea for extension education, and it should be taken carefully for what it is worth. Edward Murrow, the famous broadcaster of CBS, was once quoted as saying about television: "This instrument can teach, it can illuminate, yes and it can even inspire. But it can only do so to the extent that humans are determined to use it to those ends; otherwise it is merely wires and lights in a box" (quoted in Rajan, 1987, p. 430).

LIST OF REFERENCES

Alexander, F. D., et al. (1965). TV educational function of the colleges of agriculture and home economics (Extension study, No. 9). Ithaca: State University of New York. (ERIC Document Reproduction Service No. ED 019580)

Cambre, M. A. (1989a). A reappraisal of instructional television. In M. A. Cambre (Ed.), Educational Telecommunications (pp. 4-33). Columbus, OH: Kinko's.

Cambre, M. A. (1989b). Teacher planning research and its implications for instructional television utilization. In M. A. Cambre (Ed.), Educational Telecommunications (p. 120). Columbus, OH: Kinko's.

College of Agriculture, Ohio Cooperative Extension Service, Ohio Agricultural Research and Development Center, The Ohio State University. (1988, March). They came from outer space. Ohio 21, p. 25.

Dillman, D. A. (1978). Mail and telephone surveys: The total design method. New York: John Wiley & Sons.

Eastmond, J. N., Jr., et al. (1987). Statewide telecourse survey: Teachers,administrators and students. Richfield: Central Utah Educational Services Center. (ERIC Document Reproduction Service No. ED 291376)

Eckles, S. G., & Miller, W. W. (1987). Perceptions of 1987 Master Gardener participants toward the use of satellite telecommunications for educational/extension delivery. Ames: Iowa State University, Department of Agricultural Education. (ERIC Document Reproduction Service No. ED 289042)

Fett, J., Duffy, K., & Shinners-Gray, T. (1989, July). Evaluation of a county extension office's mass-media efforts: A user perspective. Paper presented at the Annual Convention of the Agricultural Communicators in Education, Portland, OR.

Hilton, W. J. (1982). Adult learning innovations: Vehicles for social and economic progress. Denver, CO: Education Commission of the States, Education Improvement Center. (ERIC Document Reproduction Service No. ED 235388)

Jones, P. E. (1984). The 1983-84 Maryland ITV utilization study. Towson, MD: Towson State University, Department of Instructional Technology. (ERIC Document Reproduction Service No. ED 264854)

Murphy, W. F., Jr. (1987, October). Telelearning for extension agents: The Virginia experience. Paper presented at the Annual Meeting of the American Association for Adult and Continuing Education, Washington, DC. (ERIC Document Reproduction Service No. ED 287014)

Ohio Cooperative Extension Service. (1987a). [Grain marketing policy TV evaluation summary]. Unpublished raw data.

Ohio Cooperative Extension Service. (1987b). [Satellite broadcast evaluation]. Unpublished raw data.

Oklahoma State University, Cooperative Extension Service, Division of Agriculture. (1989). A first: Satellite videoconferencing. Stillwater, OK: Author.

Olgren, C. H., & Parker, L. A. (1983). Teleconferencing technology and applications. Dedham, MA: Artech House.

Pease, P. S., & Threlkeld, R. M. (1984). Telecommunications and changes in higher education. In L. A. Parker & C. H. Olgren (Eds.), Teleconferencing and electronic communications III: Applications, technologies and human factors: Vol. 3 (pp. 388-394). Madison: University of Wisconsin-Extension, Center for Interactive Programs.

Rajan, M. S. (1987). Satellite applications in distance education through TV and radio. In Distance education in Asia and the Pacific. Volume I. Proceedings of the Regional Seminar on Distance Education (pp. 422-491). Manila, Philippines: Asian Development Bank. (ERIC Document Reproduction Service No. ED 290863)

Sanders, J. R., & Sonnad, S. R. (1982). Research on the introduction, use and impact of the "Thinkabout" instructional television series: Vol. I. Technical report. Bloomington, IN: Agency for Instructional Television. (ERIC Document Reproduction Service No. ED 249949)

Schramm, W. (1973). Big media, little media. A report to the Agency for International Development. Palo Alto, CA: Stanford University, Institute for Communication Research. (ERIC Document Reproduction Service No. ED 077186)

Tiene, D. & Futagami, S. (1987). Designing effective educational media projects: General guidelines for developing countries. International Journal of Instructional Media, 14, 282-292.

University of Georgia, Division of Vocational Education. (1987). Telecommunications technology and education. A study identifying appropriate telecommunications systems for program improvement in post secondary vocational education in Georgia. Contract No. 860020). Athens, GA: Author. (ERIC Document Reproduction Service No. ED 287082)

University of Minnesota, Minnesota Extension Service, Telecommunications Development Center. (1987). Receiving video teleconferences: A site coordinator's handbook. St. Paul, MN: Author.

University of Nebraska, Cooperative Extension Service. (1983). Cable television: A method for delivering information. Lincoln, NE: Author. (From Resources in Education, 1987, Abstract No. ED 273808)

Whiting, L. R. (1988, June). The television renaissance in extension education. Lifelong Learning: An Omnibus of Practice and Research, pp. 19-22.

APPENDIX A
THE INSTRUMENT

A Statewide Survey of Ohio Extension Agents Regarding Perceptions of Satellite Video Teleconferencing

Information and Applied Communications
Ohio Cooperative Extension Service
The Ohio State University

INSTRUCTIONS

This survey is intended to collect information regarding satellite video teleconferencing in Ohio. Your opinion is requested on programs produced by the Ohio Cooperative Extension Service (OCES) only, unless otherwise indicated. Also, we are interested in programs produced for your clientele, unless an item refers specifically to in-service video conferences. The term "satellite video teleconference" refers to the live programs only, that is when the viewers call in questions to the speakers through toll-free telephone lines. It does not refer to pre-taped programs like "Agritrends".

Please answer all items. Circle only one response per item. The responses are represented by letters as follows:

SA: Strongly Agree
A: Agree
U: Undecided
D: Disagree
SD: Strongly Disagree

Example of a response:

Prices of automobiles should be reduced. SA (A) U D SD

Your responses are anonymous, so please answer as accurately and frankly as possible.

Thank you for your help.

A. FORMAT AND SCHEDULING

1. OCES satellite video teleconferences tend to be too long.	SA A U D SD
2. OCES satellite video teleconferences should be no more than 1 1/2 to 2 hours in length.	SA A U D SD
3. The capability to call in questions through the toll-free lines during video teleconferences is important.	SA A U D SD
4. The amount of time allotted for calling in questions is usually sufficient.	SA A U D SD
5. The present OCES production schedule (10 to 14 satellite video teleconferences per year) is an adequate number.	SA A U D SD
6. Program time (daytime or evening hours) should be scheduled according to audience needs.	SA A U D SD
7. In general, satellite video teleconferences should appear on a regular time schedule, e.g. the same day and time every month.	SA A U D SD
8. The time of the day that OCES satellite video conferences are usually scheduled is inconvenient to me.	SA A U D SD
9. The pacing of the OCES video conferences is usually too fast to follow.	SA A U D SD
10. The graphics are of great value to the programs.	SA A U D SD
11. A live satellite video teleconference is a better option than a telephone audio-only conference.	SA A U D SD

12. Overall, OCES video conference format is appropriate as it is. SA A U D SD

13. I often have technical problems when I hold a satellite video teleconference meeting. SA A U D SD

14. I usually have a problem tuning up the dish when I hold a video teleconference meeting. SA A U D SD

15. I usually have a problem recording (taping) the program when I hold a video teleconference meeting. SA A U D SD

16. The reception of the broadcast signal of the OCES satellite video conferences is quite satisfactory in my area. SA A U D SD

17. Getting clientele to attend satellite video conference meetings is becoming more and more difficult. SA A U D SD

B. EDUCATIONAL VALUE & RELEVANCE

18. Subject matter content of the OCES satellite video teleconferences is not relevant and important for my clientele. SA A U D SD

19. I believe that participating clientele obtain useful and practical information that they can apply to their work or home situation. SA A U D SD

20. Generally, there is no new information communicated through the OCES satellite video conferences that would not be available to my clientele through other means. SA A U D SD

21. More stringent selection of topics is needed to assure more relevant information to meet client needs. SA A U D SD

22. The live video conferences have the same educational value as a pre-recorded video tape with the same information. SA A U D SD

23. The live video conferences have the same educational value as print material with the same information. SA A U D SD

24. Satellite video conferencing would be equally effective to having the speaker come to my meetings. SA A U D SD

25. Satellite video conferencing is the next best thing when speakers are not physically present in my meetings. SA A U D SD

26. Satellite video teleconferences are boring for my clients. SA A U D SD

27. Satellite video teleconferences are a suitable alternative to existing techniques for delivery of information. SA A U D SD

28. Satellite video teleconferences are a suitable alternative to existing techniques for changing attitudes. SA A U D SD

29. Satellite video teleconferences are a suitable alternative to existing methods for changing behaviors. SA A U D SD

C. PUBLICITY, PRE & POST-VIEWING ACTIVITIES, SUPPLEMENTAL PRINT MATERIALS

Satellite video teleconferences may require some publicity long in advance. In addition, some pre-viewing and post-viewing activities may take place during the meeting the day of the conference, like delivery of the supplemental print materials and discussion with the clients. Your opinion on the

following statements regarding these activities would be much appreciated:

30. Publicity and promotion of upcoming OCES video teleconferences is adequate as it is. SA A U D SD

31. Publicity and promotion of upcoming video conferences from other states is adequate as it is. SA A U D SD

32. I usually get adequate supplemental print materials from OCES for the satellite video teleconferences. SA A U D SD

33. I usually get the supplemental print materials from OCES on time. SA A U D SD

34. The supplemental print material is at an appropriate level for my clients to read and understand. SA A U D SD

35. The supplemental materials that I usually get from OCES are worth using. SA A U D SD

36. The specialists that appear on the programs should write the supplemental print materials themselves. SA A U D SD

37. Agent-led discussions prior to or immediately after satellite video conferences enhance the learning environment for the on-site participants. SA A U D SD

38. Clientele, watching a video conference at home, will learn just as much as if they participated in a meeting at the Extension office receiving site. SA A U D SD

D. ADMINISTRATION, PLANNING & USES

39. Extension administrators are providing adequate leadership state-wide to implement satellite video teleconferencing. SA A U D SD

40. There should be greater monetary incentive (cost-sharing) to assist counties to purchase satellite dishes. SA A U D SD

41. I feel I don't participate enough in the planning process of the OCES satellite video teleconferences. SA A U D SD

42. I feel I am not involved in any stage of planning and design of satellite video conferences other than hold the meetings. SA A U D SD

43. There should be more OCES in-service video teleconferences scheduled. SA A U D SD

44. Most OCES satellite video teleconferences should be scheduled for in-service topics for Extension personnel rather than for clientele. SA A U D SD

45. Satellite video teleconferencing is an excellent way to "network" with other land grant universities and Extension Services. SA A U D SD

46. Satellite video teleconferences are more appropriate for rural audiences than urban audiences. SA A U D SD

47. Satellite video-conferences are most useful in emergency situations (such as drought). SA A U D SD

48. Agricultural topics are the most important for satellite video teleconferencing. SA A U D SD

49. Satellite video conferences should be about equal in numbers across the four Extension program areas. SA A U D SD

E. OVERALL PERCEPTIONS

50. In general, state OCES specialists do an excellent job in planning and presenting satellite video conferences. SA A U D SD

51. In general, OCES satellite video conferences are better than those from other states. SA A U D SD

52. Satellite video conferencing is just another technical wizardry with no actual value for Extension. SA A U D SD

53. I would recommend the OCES satellite video conferences to my colleagues in other states. SA A U D SD

54. I would like to see more satellite video conferences in the future. SA A U D SD

55. More county Extension offices in Ohio should install satellite dishes. SA A U D SD

56. OCES satellite video teleconferences should be discontinued. SA A U D SD

57. OCES Satellite video teleconferences have been uniformly high in quality for the last three years. SA A U D SD

58. In general, I feel that satellite video conferences as an educational resource are irreplaceable. SA A U D SD

59. Satellite video conferencing makes my job more complicated than it needs to be. SA A U D SD

60. Satellite video conferencing helps improve the image of OCES in general. SA A U D SD

61. Satellite video conferencing is so efficient it may eventually replace conventional techniques of teaching in Extension Education. SA A U D SD

62. I think that OCES satellite video conferences are worth the expense. SA A U D SD

63. More money should be allocated for OCES satellite video teleconferences in the future. SA A U D SD

64. One of the first things to go in a tight budgetary environment should be satellite video teleconferences. SA A U D SD

65. It is easier to justify funding for OCES video teleconferencing now, than when they first started. SA A U D SD

66. Organizing video conference meetings is a waste of time for me. SA A U D SD

67. Satellite video conferencing is a waste of time for the Extension Service in general. SA A U D SD

68. Incorporating satellite video conferencing in my work makes me look more up-to-date and professional with clientele. SA A U D SD

69. Satellite video conferencing makes me lose some of my importance as an Extension Educator. SA A U D SD

70. If used extensively, satellite video conferences are a potential threat to my job security. SA A U D SD

F. BACKGROUND INFORMATION

71. How long have you been working in Extension in Ohio? (please circle number):

1 0-3 YEARS
2 4-6 YEARS
3 7-9 YEARS
4 10 OR MORE YEARS

72. How many times have you held/organized satellite video teleconference meetings in the last three years? (please circle number):

    1 0-3 TIMES
    2 4-6 TIMES
    3 7-9 TIMES
    4 10 OR MORE TIMES

73. How many times have you attended satellite video teleconferences in the last three years ? (please circle number):

    1 0-3
    2 4-6
    3 7-9
    4 10 OR MORE

74. Do you have a satellite dish at your county office ?

    1 YES
    2 NO

75. If NO, does your county office plan to purchase and install a satellite dish at some time?

    1 YES
    2 NO

76. If your county does not have a dish nor plans to purchase one, do you and your meeting groups have access to a local receiving dish elsewhere?

    1 YES
    2 NO

77. Do you usually have some pre-conference activities at your video conference meetings? (e.g. delivery of print material, discussion, etc.)

    1 YES
    2 NO

78. Do you usually have some post-conference activities at your video-conference meetings? (e.g. delivery of print material, discussion, etc.)

1 YES
2 NO

79. Please assign a number from 1 to 10 to each of the following sources of information according to how much you like to use them in your job (1= like least, 10= like most). The same number may be assigned to more than one sources, and not all numbers from 1 to 10 have to be used:

__ AUDIO TAPES
__ BULLETINS AND FACT SHEETS
__ COMPUTER INFORMATION (ELECTRONIC MAIL AND BULLETIN BOARDS)
__ EDUCATIONAL FILMS
__ EDUCATIONAL VIDEO-TAPES
__ EXHIBITS AND DISPLAYS
__ NEWS RELEASES
__ NEWSLETTERS
__ POSTER SESSIONS
__ RADIO PROGRAMS
__ SATELLITE VIDEO TELECONFERENCES
__ SLIDE/TAPE PRESENTATIONS
__ SLIDES
__ TRANSPARENCIES/OVERHEADS

80. Please check any of the following equipment that you might have purchased at home for your own private use (please check all that apply):

__ PERSONAL COMPUTER
__ SATELLITE DISH
__ VCR
__ COMPACT DISC PLAYER

81. The racial mix of your clientele is (please indicate approximate percent for each group):

1 __ BLACK
2 __ HISPANIC
3 __ NATIVE AMERICAN
4 __ WHITE
5 __ OTHER

100%

82. You belong to which of the following age groups? (please circle number):

1 UNDER 25 YEARS
2 25-35 YEARS
3 36-45 YEARS
4 46-55 YEARS
5 OVER 55 YEARS

83. What is your program area? (please check all that apply):

1 __ AGRICULTURE
2 __ HOME ECONOMICS
3 __ 4-H/YOUTH
4 __ COMMUNITY & NATURAL RESOURCES DEVELOPMENT

84. Your county belongs to which district? (please circle number):

1 NW
2 SW
3 E
4 NE
5 S

G. GENERAL COMMENTS

85. Here is what I consider the single most important advantage of the OCES satellite video conferences (please explain in the space provided):

86. Here is what I consider the single most important disadvantage of the OCES satellite video conferences (please explain in the space provided):

87. This is what I consider as the most important factor for the success of the satellite video teleconferences (please explain in the space provided):

88. Feel free to make any other comments or suggestions about the topics included in this questionnaire or maybe some important topic that you think was left out. You may use all the empty space on this page and all the space on the back:

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.

PLEASE DON'T FORGET TO MAIL THE PREPAID CARD WITH YOUR NUMBER.

RETURN TO: ARGYRIOS GERAKIS
INFORMATION & APPLIED
COMMUNICATIONS /OCES
THE OHIO STATE UNIVERSITY
216 KOTTMAN HALL
2021 COFFEY RD.
COLUMBUS, OHIO 43210-1044

APPENDIX B
COVER LETTER

T · H · E
OHIO STATE UNIVERSITY

Ohio Cooperative Extension Service

Information and Applied Communications
2021 Coffey Road
Columbus, OH 43210-1044
Phone 614-292-2011

July 3, 1989

Beth Gaydos, Acting Chair
Noble County Extension
Court House
Caldwell, OH 43724

Dear Beth

Satellite video teleconferencing is a technique that has been used quite often in the last three years by the Ohio Cooperative Extension Service. However, we have made no systematic attempt to collect feedback from agents regarding this technique. This survey has been approved by OCES and is being mailed to 189 agents -- all those appointed prior to Jan. 1, 1989. The survey was compiled by and the study is being done by Argyrios Gerakis, a master's candidate in Ag Education.

Please, do us all a great favor by taking 20 minutes to complete the enclosed questionnaire. We believe that you are the most appropriate person to answer, since you play a vital part in implementing satellite video conferences by holding the meetings, taping and distributing the programs. Even if you have never held a video conference meeting, it is still important that you complete this questionnaire to the best of your knowledge.

You may be assured of complete anonymity. We have no way to identify respondents from the questionnaires returned. Instead, we ask that you mail the enclosed prepaid card separately when you return your questionnaire. The card has an identification number only so that we can determine who has returned completed questionnaires. On the same card there is a box that you may check if you wish us to send you a summary of the results.

Unless otherwise indicated, we would like your opinion only on programs produced by OCES. Also, the questions regard only programs produced for clientele, not in-service video conferences. The term "satellite video teleconference" refers to the live programs, that is when viewers call in questions through toll-free telephone lines. It does not refer to pre-taped programs like "AgriTrends."

We thank you in advance for your prompt, honest responses. If questions arise, please write or call me at (614) 292-2011. Please mail back your questionnaire in the enclosed, self-addressed, stamped envelope by July 28.

Thank you again for your help in this study.

Sincerely,

Larry R Whiting

Dr. Larry R. Whiting, Head
Information & Applied Communications

APPENDIX C
SELECTED COMMENTS

The following comments come from the open-ended section of the questionnaire. They were chosen for inclusion in this report because it is this author's feeling that they reflect the strong emotions and deep concerns of certain agents about satellite video conferencing; however, these comments are not necessarily representative of the majority of the agents:

"The quality of the 'actors' and 'actresses' in their delivery is too stiff and formal. Programming is often boring. The audience compares the program to public TV and we get a poor rating."

"Satellite video conferencing has great potential, but it seems that all planning is done at the state level with very little involvement and communication at the county level, and the county needs to do the promotion and publicity for it to succeed."

"Now, I prefer video tape. If I had exclusive control of a dish, I would like satellite."

"There is nothing that replaces the speaker. Give agents the prepared materials and they can teach."

"Better topics of interest to my clientele. African bees are not a hot topic."

"Sometimes the publicity is misleading as to the actual content of the program. To know who to invite we need to know exactly what to expect from the program."

"If we are to begin to utilize video teleconferencing, we must make sure programs are relevant to urban needs--that includes

sensitivity to ethnic, cultural and social differences. All support materials need to reflect OCES commitment to affirmative action--no excuses should be tolerated. If we can't get video shots which reflect the broadest audience perspective from Columbus, then take a crew and film elsewhere."

"I have not used satellite because there are no topics suitable for youth audiences."

"Lack of flexibility. If a day or time is inconvenient for my county, tough."

"All counties don't have dishes and many don't have funds and decent meeting rooms."

"A good timely pre-recorded and edited video is as good or better. A 20-minute video works well with a group. With limited funds I would have 3-5 live telecasts and the rest into making good videos that can be used over a period of time."

"Problems with quality and timeliness has hurt our image greatly. We cannot depend on the Office of Information to get the job done. Please get your act together before it is too late."

"A large opportunity exists to deliver in-service over satellite and save the cost of agent travel."

"Will video conferences get agents promotion and tenure?"

"We really need more details on program topics for both in-state and out-of-state programs so we can make judgements as to whether to promote or not."

"The programs have generally been well produced but our reception due to the uplink problems has been embarrassing."

"Basically, video conferences can be an excellent educational tool. However, more preparation needs to be undertaken by the presenters prior to the conference, and the material has to be relevant to the issue. Printed material should be available to supplement what is being presented."